IEEE P802.11
Wireless LANs

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| Tgbn MAC ad hoc teleconferences in January to March 2024  |
| Date: 2024-01-29 |
| Author(s): |
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Abstract

This document contains the meeting minutes for the TGbn MAC ad hoc teleconferences held between January 2024 and Mach 2024.

Revisions:

* Rev0: Added the minutes from the telephone conferences held on January 29.

Abbreviations:

* C: Comment.
* A: Answer.

**Monday, 29 September 2024, 07:00pm – 09:00pm ET (TGbn MAC ad hoc conference call)**

Chairman: Jeongki Kim (Ofinno)

Secretary: Srinivas Kandala (Samsung)

This meeting took place using a webex session.

**Introduction**

1. The Chair (Jeongki, Ofinno) calls the meeting to order at 07:01pm EDT. The Chair introduces himself and the Secretary, Srini (Samsung)
2. The Chair goes through the 802 and 802.11 IPR policy and procedures and asks if there is anyone that is aware of any potentially essential patents.
	1. Nobody responds.
3. The Chair goes through the IEEE copyright policy and no comments received on the floor
4. The Chair recommends using IMAT for recording the attendance.
	* Please record your attendance during the conference call by using the IMAT system:
		1. 1) login to [imat](https://imat.ieee.org/attendance), 2) select “802.11 Telecons (<Month>)” entry, 3) select “C/LM/WG802.11 Attendance” entry, 4) click “TGbn <MAC/PHY/Joint> conference call that you are attending.
	* If you are unable to record the attendance via [IMAT](https://imat.ieee.org/attendance) then please send an e-mail to Jeongki Kim (jeongki.kim.ieee@gmail.com), Xiaofei Wang (xiaofei.wang@interdigital.com) and Srinivas Kandala (srini.k1@samsung.com)

**Recorded attendance through Imat and e-mail:**

**To be added**

1. The Chair reminds that the agenda can be found in 11-24/0201r2. The Chair asks for the comments about the agenda. No comments are received.
* C: When will the straw polls for preemption will be run?
* A: Procedurally anybody can run straw polls when they want some information. The motions can be only run with ten day notice. Chair also proposes to have straw polls during face-to-face meetings, but should anyone desire, send an email to chair & reflector askign for straw poll in the teleconference.
* The proposed agenda is approved.
1. Technical submissions – Premeption:
2. [23/1886](https://mentor.ieee.org/802.11/dcn/23/11-23-1886-02-00bn-preemption-techniques-to-meet-low-latency-ll-targets.pptx) Preemption techniques to meet low-latency (LL) targets Giovanni Chisci (Qualcomm)

Discussion:

* + C: On the low-latency STA contending inside of the TXOP. What happens to the MAC state machine? To they start all over again or goes back to previous state
	+ A: These things can be discussed further. These can be thought of as an internal collision or somewhat like TXOP sharing or probably the STA will contend from scratch. Since this is more like an internal collision it does not need exponential backoff and the STA will just randomize a new number
	+ C: PRI is transmitted from the STA to whom the AP is transmitting. What happens if another STA has low-latency traffic,
	+ A: It will send the pre-emption indication using the same set of resources and start EDCA based access
	+ C: What happens to the uplink transmission?
	+ A: The PRI will be sent by the AP
	+ C: How would a second STA get access over the first STA
	+ A: We did not consider the case
	+ C: The PR enablement in DL PPDU and PR enablement in BA frames, are they the same of they are different? Asking becasue with indication in DL PPDU the PRI transmission happens AFTER BA transmission and when indication happens in BA, the PRI happens immediatelly after BA.
	+ A: We are considering two cases: PRI and BA.
	+ C: Are the PR enablement in DL PPDU and BA be same?
	+ A: Can be discussed further. Dont see much difference.
	+ C: Slide 10: How are you going to stop from another STA to use it?
	+ A: Structurally PRI are similar from both AP and STA, but the STA needs to understand AP sent the PRI
	+ C: How to make sure that other STAs that have no low-latency traffic also access the channel
	+ A: There is no focussed contention. When preemption is started, all STAs will contend of the channel whether they have low-latency traffic or other traffic
	+ C: Slide 7. Did you also consider the case when any other STA transmits PRI? When will the other STA send PRI?
	+ A: The AP is not collecting PRI and whch STA is sendng the PRI, only that a PRI is sent
	+ C: What if the STA does not hear the ACK?
	+ A: Doesnt really matter.
	+ C: My worry is the PRI may collide if multiple STAs transmit
	+ A: Yes, they can collide but AP only needs to receive one
	+ C: How long would the contention period? What if two STAs collide? This solution is not scalable. Everyone jumps in or someone outside the contention and take over the channel
	+ A: The idea is to have a few STAs can collide, but the effect should be managed. Even if the traffic is unpredictable. But there are other tools in the tool box and can be applied
	+ C: How do you handle the collision if EDCA is used within the TXOP? There could be multiple STAs and they could be transmitting at the same time.
	+ A: Collision will result in AP missing the ACK and the normal BA would be sent by the AP. No new iteration of preemption can be resumed.
	+ C: Will the STAs be retransmitted?
	+ A: There could be pre-negotiate time during which the retransmission can be done after which the AP would resume
	+ C: It seems that there is only one BSS. What happens if there is OBSS activity? Would this lead to a longer TXOP reserved by the AP and what would be the effect?
	+ A: We are preparing something on OBSS but right now not recommending any inter-BSS coordination. In terms of over-reservation, we dont need to mandate it. The key part is that the AP can truncate its transmissions. You dont need to reserve more
1. [23/1909](https://mentor.ieee.org/802.11/dcn/23/11-23-1909-00-00bn-transmission-method-of-low-latency-traffic.pptx) Transmission Method of Low Latency Traffic Insun Jang (LGE)

Discussion:

* + C: Slide 5. There appears to be some negotiation before even the TXOP starts. What happens if the low latency packet in the middle of the TXOP?
	+ A: We need to discuss in the next phase, if it is mandatory or optional. Without negotiation, the STA cannot understand preemption
	+ C: But the negotation will not be of much value in some cases. Take it offline
	+ C: Slide 5. Are the negotiations between STAs or do you mean between STA and AP?
	+ A: Not between non-AP STAs, but between Aps
	+ C: Slide 9. The BA has LLT info so that STA knows that there is low-latency traffic. In slide 10, STA1 includes this info in BA before the AP transmits the trigger frame.
	+ A: Discuss further offline
	+ C: Slide 7. How would the STA send the triggering info? What does the LL information from the AP would do?
	+ A: If you go to slide 8, the sequence is same as previous slide, the AP can inform the TXOP holder on the LL to allow the preemption
	+ C: If STA1 has no LLT, if the AP keeps on sending the trigger info frame again and again would there be waste of the bandwidth
	+ A: upto the AP
	+ C: Slide 10. How would the allocations work? Common resources or specific RUs.
	+ A: ...
	+ C: How does the TXOP holder know the LLT presence
	+ A: The AP indicates the LLT info
	+ C: Is LLT Info a new frame?
	+ A: Depends on the design
1. [23/1939](https://mentor.ieee.org/802.11/dcn/23/11-23-1939-02-00bn-priority-based-preemption-method.pptx) Priority Based Preemption Method Ronny Y. Kim (KNUT)

Discussion: None

1. [23/1950](https://mentor.ieee.org/802.11/dcn/23/11-23-1950-00-00bn-considerations-on-preemption-request.pptx) Considerations on Preemption Request Leonardo Lanante (Offino)

Discussion:

* + C:Slide 8. Regarding option 2, MU-RTS/CTS will silence OBSS interference. It is a tradeoff which should be prioritized
	+ A: That is true, but we are open to suggestions
	+ C: Option 2 can be used in specific use cases and should not be used in dense environments
	+ A: Agreed
	+ C: Slide 6 shows that the LLT should be protected but is discarded. What is happening?
	+ A: Indeed, with option 1, it will be discarded, but you can show the overhead would be less with simpler implementation
	+ C: So that means no LLT sent
	+ A: Yes
	+ C: Slide 7. What does it mean that i as a STA receives MU-RTS and not getting served having implications on power save. What does that mean?
	+ A: The assumption is that if you have low-latency traffic then you will not do power save
	+ C: Comment on options 1 and 2. The situation is not with preemption. Even today an AP can send data to STA1 and then continue on with STA2 in the same TXOP. Protecting the TXOP is working and not a problem and how it is working today and is not specific to preemption
	+ C: What is our design target for such a packet preemption. We can hardly guarantee low-latency if we have OBSS and is an occupied channel with TXOP of 3 ms. In the worst case, we will have long latency which is longer than TXOP duration. Are we looking for some opportunistic low-latency or guaranteed low-latency
	+ A: We will handle it by having maximum PPDU transmission and we can improve the latency in general, but did not understand the question
	+ C: Even if we ahve a way to stop our low priority traffic and switch to high priority traffic we can not do that if a STA is strongly impacted by OBSS, then we cannot target the STA as LLT receiver. This target is never achievable
	+ A: problem cannot always be solved
	+ C; What if OBSS transmissions are latency and you may be preventing from transmitting
	+ A: Yes, that also happens